UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,132	03/01/2002	Clint J. Bishard	84262.5	4397

7590   07/18/2007

Technology Law Department
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EXAMINER
LEVITAN, DMITRY

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
07/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10087132	3/1/02	BISHARD, CLINT J.	84262.5

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EXAMINER
Dmitry Levitan

ART UNIT	PAPER
2616	20060821

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

Final rejection, originally mailed to the attorney on 8/29/06, is attached to this Office communication.

Dmitry Levitan
Primary Examiner
Art Unit: 2616

DMITRY LEVITAN
PRIMARY EXAMINER

UNITED STATES PATENT AND TRADEMARK OFFICE

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10/087,132	03/01/2002	Clint J. Bishard	84262.5	4397

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LEVITAN, DMITRY

ART UNIT	PAPER NUMBER
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DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)	
Office Action Summary	10/087,132	BISHARD, CLINT J.	
	Examiner	Art Unit	
	Dmitry Levitan	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _04 August 2006_.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-20_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

U.S. Patent and Trademark Office
PTOL-326 (Rev. 7-05)   Office Action Summary   Part of Paper No./Mail Date 20060821

Amendment, filed 08/04/06, has been entered. Claims 1-20 remain pending.

Claim Objections

In light of Applicant's amendment, the objection to claim 1 has been withdrawn.

Claim Rejections - 35 USC § 112

In light of Applicant's amendment, the rejection of claim 4 under 35 U.S.C. 112, first paragraph,

has been withdrawn.

Claim Rejections - 35 USC § 103

1.   Claims 1- 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu (US

6,480,911).

2.   Regarding claims 1, 2, 5-8, 14 and 15, Lu substantially teaches the limitations of claims:

A method and a switch, comprising a plurality of ingress and egress ports connected to

telecommunication packet network (network unit 202, comprising a switch 310, shown on Fig. 4,

and connected to the incoming and outgoing communication lines 208-215, shown on Fig. 2 and

3 through inherent input and output ports, because the ports are essential for the system operation

3:46-4:22), to provide congestion management at an egress port of the switch (managing the

output ports with output queues 312-318 and 4:22-39), comprising

three queues, each having an input an output and a capacity (queues 440, 442 and 444,

shown on Fig. 4 and 5 and 4:23-65, each comprising input and output, and buffer thresholds,

related to the buffer/queue capacity 7:56-8:29), each operable to receive packets of information

of the queue related type at its input that are destined to be communicated to the egress port

through its output (queues 440, 442 and 444 supporting one of the classes, second/medium, first/high and third/low classes shown on Fig. 5);

a scheduler to perform operation of receiving the output packets from the queues and communicating the packets to the egress port of the packet switch based on schedule (inherently part of the system, because the system receives packets from the queues based on the assigned queues service class priority 2:35-60 or weight 4:52-60); and

a queue shaper to perform operation to set an adjustable rate in which the packets of the third queue are communicated to the scheduler (inherently part of the system, because the system performs weight adjusting operation, wherein all queues, including third, report their soft and hard thresholds 7:55-8:29 and the weight of the first/high queue is adjusted to provide more capacity for the high queue to avoid packet dropping 9:33-10:8).

Lu also teaches trading weight/assigned bandwidth between queues to avoid packet dropping 10:9-16 and dropping the packets from the third/low class queue based on loading capacity of the medium and high class queues 10:30-40.

Lu does not teach using a switch, wherein a discard policy is enabled for the third queue based on the loading capacity of the second queue, comprising a switch matrix interconnecting the input and output ports.

Official notice is taken that using switch matrix to interconnect the input and output ports in a packet switch is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using a switch, wherein the dropping of low class packets is controlled by the loading of the capacity of the second/medium class queue comprising a switch matrix

interconnecting the input and output ports to the system of Lu to improve the system operation

with medium class packets by providing them additional buffer space, taken from the buffer

space designated for the low class priority packets 10:45-51 and to incorporate switching matrix

in the switch as a well known design solution.

In addition, regarding claims 2 and 15, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to add adjusting rate of third queue, based on

the loading capacity of the second queue to the system of Lu to improve the system operation

with medium class packets by reducing the rate/ weight of the third/lower class packets to

increase the transmission speed of the second/medium class packets to avoid the second queue

overflow 9:33-10:8.

3.   Regarding claim 18, Lu substantially teaches the limitations of the claim:

A method, comprising a plurality of ingress and egress ports connected to

telecommunication packet network (network unit 202, comprising a switch 310, shown on Fig. 4,

and connected to the incoming and outgoing communication lines 208-215, shown on Fig. 2 and

3 through inherent input and output ports, because the ports are essential for the system operation

3:46-4:22), to provide congestion management at an egress port of the switch (managing the

output ports with output queues 312-318 and 4:22-39), comprising

monitoring the loading of three queues, each having an input an output and a capacity

(monitoring queues 440, 442 and 444, shown on Fig. 4 and 5 and 4:23-65, each comprising input

and output, and buffer thresholds, related to the buffer/queue capacity 7:56-8:29), each operable

to receive packets of information of the queue related type at its input that are destined to be

communicated to the egress port through its output (queues 440, 442 and 444 supporting one of

the classes, second/medium, first/high and third/low classes shown on Fig. 5);

scheduling communication of the output packets from the queues and communicating the

packets to the egress port of the packet switch based on schedule (inherently part of the system,

because the system receives packets from the queues based on the assigned queues service class

priority 2:35-60 or weight 4:52-60); and

setting an adjustable rate in which the packets of the third queue are communicated to the

scheduler, wherein the adjustable rate is controlled by a loading of the capacity of the first queue

(inherently part of the system, because the system performs weight adjusting operation, wherein

all queues, including third, report their soft and hard thresholds 7:55-8:29 and the weight of the

first/high queue is adjusted to provide more capacity for the high queue to avoid packet dropping

9:33-10:8).

Lu also teaches trading weight/assigned bandwidth between queues to avoid packet

dropping 10:9-16 and dropping the packets from the third/low class queue based on loading

capacity of the medium and high class queues 10:30-40.

Lu does not teach controlling the adjustable rate by a loading of the capacity of the

second queue and dropping the packets from the third/low class queue based on loading capacity

of the second/medium class queue.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to add using the adjustable rate, controlled by a loading of the capacity of the

second/medium queue and controlling the dropping of third/low class packets by the loading of

the capacity of the second/medium class queue to the system of Lu to improve operation of the

medium class packets, utilizing the method disclosed for the high class packets and by providing

the medium class packets additional buffer space, taken from the buffer space designated for the

low class priority packets 10:45-51.

4.   Regarding claims 3 and 19, Lu teaches dropping packets in the second queue based on

the loading capacity of the second queue (dropping packets in any queue where the hard buffer

threshold is exceeded 7:55-65).

5.   Claims 4 and 20 are rejected (as best understood) under 35 U.S.C. 103(a) as being

unpatentable over Lu.

Lu substantially teaches the limitations of the claim (see rejections above).

Lu does not teach discarding packets in the first queue based on the loading capacity of the

second queue.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to add discarding packets in all queues, including the first/high class queue based on

the loading capacity of the second/medium class queue to the system of Lu to improve the

system operation to avoid the output port overload by discarding all class priority packets

including the high class packets.

6.   Claims 9-13, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Lu in view of Admitted Prior Art (Application, Background of the Invention, pages 3 and 4).

Lu substantially teaches the limitations of claims 1 and 14 (see the rejection above).

Lu does not teach packets as ATM, IP, Frame Relay, MPLS or Ethernet.

Admitted Prior Art teaches packet networks made of switches utilizing as ATM, IP,

Frame Relay, MPLS or Ethernet 3:25-4:8.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to add ATM, IP, frame relay, MPLS or Ethernet implementation of the packet switch

of Admitted Prior Art to the system of Lu to improve the system compatibility with widely used

standards.

Response to Arguments

7.   Applicant's arguments filed 08/04/06 have been fully considered but they are not

persuasive.

On page 9 of the Response, Applicant argues that Lu teaches hard buffers thresholds as inflexible

hardware units.

Examiner respectfully disagrees.

Lu teaches in example 3 adjusting the hard threshold of the buffers inversely proportional to the

capacity weight, 10:17-46, therefore changing the hard buffer thresholds. In addition, Lu teaches

organizing the queues by avoiding physical grouping and utilizing memory mapping 1:34-40, a

software implementation, which makes the size of the queues easy to be changed/flexible.

On pages 9-10 of the Response, Applicant argues that Lu does not teach enabling a discard

policy for the third queue based on the capacity of the second queue.

Examiner respectfully disagrees.

Lu teaches dropping packets during congestion from the low class packets 10:30-40 and

measuring the capacity of the queues as indication of the congestion to alert the system for a

recovery action 8:24-29.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to add dropping of low class packets, controlled by the loading of the

capacity of the second/medium class queue to the system of Lu to improve the system operation

with medium class packets by providing them additional buffer space, taken from the buffer

space designated for the low class priority packets 10:45-51.

The teaching of Lu, cited on page 10 of the response, comprise only a portion of the Example 3

(10:9-59) and Example 3 is directed to hard threshold setting, as clearly stated on 10:41-46 and

10:52-54, as Example 3 is directed to both hard and soft thresholds.

On page 10 of the Response, Applicant has attempted to challenge the Examiner taking of

Official Notice on page 4, however Applicant has not provided adequate information or

argument so that on its face it creates reasonable doubt regarding the circumstances justifying the

Official Notice. Therefore, the presentation of a reference to substantiate the Official Notice is

not deemed necessary. The Examiner's taking of Official Notice has been maintained.

Conclusion

8.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The

examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Doris To can be reached on (571) 272-7529. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dmitry Levitan
·Examiner
Art Unit 2616